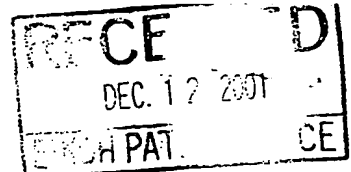


PATENT COOPERATION TREATY



From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

Eikoh Patent Office
28th Floor, ARK Mori Building
Attn. OGURI, Shohei
12-32, Akasaka 1-Chome,
Minato-Ku
TOKYO 107-6028
JAPAN

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference P-37069	Date of mailing (day/month/year) 06/12/2001
International application No. PCT/JP 01/01367	International filing date (day/month/year) 23/02/2001
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. et al.	

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within **19 months** from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within **20 months** from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority

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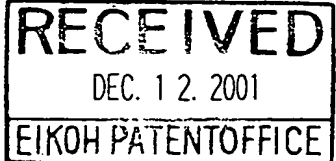
Lisa O'Sullivan

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)



Applicant's or agent's file reference P-37069	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/JP 01/ 01367	International filing date (day/month/year) 23/02/2001	(Earliest) Priority Date (day/month/year) 25/02/2000
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

2
☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 01/01367

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H04B1/38 H04M1/02 G06K7/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04B G06K H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X A	US 6 175 505 B1 (SUN HSUEH-WEN ET AL) 16 January 2001 (2001-01-16) abstract column 2, line 40 -column 3, line 45 figures 1-4	1-3,6,11 4,5,7-10
A	WO 98 13784 A (WHITAKER CORP) 2 April 1998 (1998-04-02) abstract page 3, line 26 -page 7, line 3 figures 1,2,6,7	1-11
A	WO 98 25424 A (PHILIPS ELECTRONICS NV ;PHILIPS NORDEN AB (SE)) 11 June 1998 (1998-06-11) abstract claim 1 figures 1-4	1-11

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

30 November 2001

Date of mailing of the international search report

06/12/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
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Authorized officer

Tzimeas, K

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP 01/01367

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6175505	B1	16-01-2001	NONE
WO 9813784	A	02-04-1998	AU 4588997 A 17-04-1998
			EP 0928457 A1 14-07-1999
			JP 2001505681 T 24-04-2001
			WO 9813784 A1 02-04-1998
WO 9825424	A	11-06-1998	WO 9825424 A2 11-06-1998

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(81) Designated States (*national*): AU, CN, IN, KR, US.

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Published:

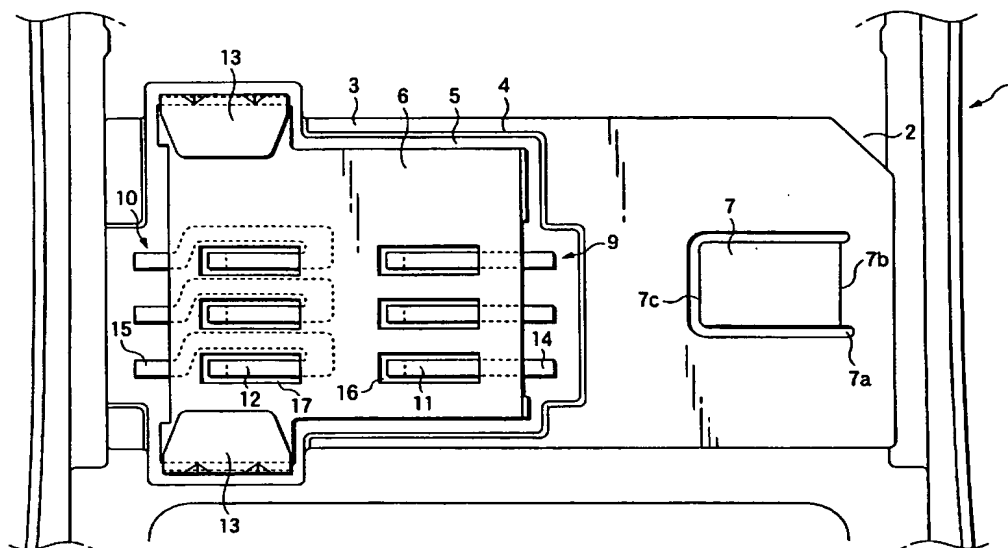
— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(72) Inventors; and

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(54) Title: **CARD HOLDING STRUCTURE AND PORTABLE TERMINAL APPARATUS HAVING THE SAME**



(57) **Abstract:** A card is slid and fitted to a card connector fixed in a card-fitting recessed portion provided inside a reverse surface-side housing of a portable terminal apparatus. A front portion of the card is held by card holding portions provided in a front portion, as viewed in a card sliding direction, of the card connector, and a rear portion of the card is held by an inner wall surface of a cover-cum-battery of the reverse surface-side housing. A housing-side stopper is provided on a bottom surface of the card-fitting recessed portion. The housing-side stopper is formed by a rectangular resilient piece having one end fixed to a bottom surface of the card-fitting recessed portion.

WO 01/63547 A2

DESCRIPTION

**CARD HOLDING STRUCTURE AND
PORTABLE TERMINAL APPARATUS HAVING THE SAME**

[Technical Field]

5 The present invention relates to a portable terminal apparatus such as a portable telephone, and more particularly to a structure for holding an identification card.

[Background Art]

10 Conventionally, as a structure for holding a subscriber identification module (SIM) card, which is an identification card for a portable telephone, one shown in Fig. 8 is known.

 It should be noted that, in the description that follows, the direction in which the identification card is loaded is assumed to be the forward direction. In Fig. 8, a card-fitting recessed
15 portion 42 is provided in the inner surface of a housing 41 of a portable telephone. In addition, a card connector 43 is disposed. The card connector 43 has two rows of contact portions 44 and 45 at forward and rearward positions, and has a pair of holding portions 46 respectively disposed at
20 substantially intermediate positions between the two rows so as to hold an identification card (hereafter referred to as the card) 51 from left- and right-hand sides. The holding portions 46 are formed by bending a metal plate, and their one ends are respectively fixed to left- and right-hand end portions of the
25 card connector 43. By virtue of their resiliency, the holding portions 46 hold the fitted card 51.

 In the above-described construction, when the card 51 is loaded, a front end of the card 51 is adjusted to the position of the rear ends of the holding portions 46, is passed below

the holding portions 46, and is slid until it abuts against an inner wall surface of a front end 42a of the card-fitting recessed portion 42. Accordingly, the amount of the card 51 slid becomes the length indicated at L in the drawing. An inner wall surface of a rear end 42b of the card-fitting recessed portion 42 serves as a stopper for preventing the fitted card 51 from coming off.

However, with the above-described card holding structure, there has been a problem in that the amount of the card slid is long. In addition, since the inner wall surface of the rear end of the card-fitting recessed portion is used as the stopper, it has been necessary to lift the rear end side of the card upward and deflect it at the time of removing the card. For this reason, there has been a problem in that a mechanical stress is undesirably applied to the card.

[Disclosure of the Invention]

The invention has been devised to overcome the above-described problems, and its object is to provide a card holding structure which reduces the amount of the card slid. Another object of the invention is to provide a card holding structure capable of removing the card without deflecting it as well as a portable terminal apparatus having the same.

In accordance with the invention, there is provided a card holding structure in which a card is slid and fitted to a card connector fixed in a card fitting portion provided inside a housing of a portable terminal apparatus and is held, characterized in that a front portion of the card is held by a card holding portion provided in a front portion, as viewed in a card sliding direction, of the card connector, and that a rear portion of the card is held by an inner wall surface of a cover of the housing of the portable terminal apparatus. By

virtue of this construction, the card can be held reliably, and the amount of the card slid can be reduced.

In addition, the card holding structure is characterized in that the card fitting portion is recessed in an inner surface of the housing, and that a housing-side stopper is provided which is formed by a rectangular resilient piece having one end fixed to a bottom surface of the card fitting portion. By virtue of this construction, the card can be removed without deflecting it.

[Brief Description of Drawings]

Fig. 1 is a diagram for explaining a portable telephone in accordance with an embodiment of the invention;

Fig. 2 is an enlarged view of an essential portion shown in Fig. 1;

Fig. 3 is an enlarged cross-sectional view of a state in which a cover-cum-battery is fixed;

Fig. 4 is a perspective view taken from the reverse surface side in Fig. 3;

Fig. 5 is a plan view illustrating a state in which the fitting of the card is started;

Fig. 6 is a plan view illustrating a state in which the fitting of the card has been completed;

Fig. 7 is a cross-sectional view illustrating a state in which the fitting of the card has been completed; and

Fig. 8 is a diagram for explaining a conventional structure for holding an identification card.

[Best Mode for Carrying Out the Present Invention]

Hereafter, a description will be given of an embodiment of the invention.

Fig. 1 is a diagram for explaining a portable telephone

in accordance with an embodiment of the invention. This drawing shows a reverse surface-side housing 1 of the portable telephone.

An opening 2 for attaching a cover-cum-battery is formed in this reverse surface-side housing 1 in such a manner as to extend
5 from a substantially central portion to a lower edge thereof.

A card-fitting recessed portion 3 for fitting a card is provided in the opening 2. The card-fitting recessed portion 3 is formed in a substantially rectangular shape on the inner surface of the reverse surface-side housing 1 so that the a card can be
10 fitted in a direction (from right to left in the drawing) perpendicular to the longitudinal direction of the reverse surface-side housing 1. In addition, a through hole 4 is formed in the card-fitting recessed portion 3 in such a manner as to extend from the center to the front side thereof (left-hand side
15 in the drawing) as viewed in the card fitting direction, and a card connector 6 is fixed to a printed circuit board 5 exposed therein. Further, a housing-side stopper 7 for preventing the fitted card from coming off is provided in a rear portion (right-hand side in the drawing) of the card-fitting recessed
20 portion 3.

Fig. 2 is an enlarged view of an essential portion shown in Fig. 1, and Fig. 3 is an enlarged cross-sectional view of a state in which the cover-cum-battery is fixed. Further, Fig. 4 is a perspective view taken from the reverse surface side
25 in Fig. 3 (from the lower side in Fig. 3). As shown in Figs. 2 and 3, the card connector 6 has two sets of contact members 9 and 10, which are respectively arranged on front and rear sides of a plate-like base, as well as a pair of holding portions 13.

The base has a substantially rectangular planar shape, and its
30 front edge side in the card fitting direction is formed to be wide.

The set of three contact members 9, which are arranged on a rear portion in the card fitting direction, are formed by thin metal pieces, and joining portions 14 which are soldered to the printed circuit board 5 of the main body of the portable telephone are respectively provided at their rear ends, while contact portions 11 which come into contact with the contacts of the card are respectively provided at their front ends. Each contact member 9 extends in such a manner as to creep into the interior of the base from an end face (rear end face) of the base on its card fitting side and then advance straight. Then, the contact member 9 is exposed from a wall surface of a through hole 16 with a rectangular cross section formed in the base in correspondence with the contact portion 11. Further, the contact member 9 is bent upward from a substantially central portion in the through hole 16, becomes higher than the obverse surface (upper surface) of the base and forms a peak, and the contact member 9 is subsequently bent downward to its terminating end. In other words, the contact portion 11 is bent in a chevron shape and has a terminating end in the card fitting direction.

Meanwhile, the set of three contact members 10, which are arranged on a front portion in the card fitting direction, are formed by thin metal pieces, and joining portions 15 which are soldered to the printed circuit board 5 of the main body of the portable telephone are respectively provided at their front ends, while contact portions 12 which come into contact with the contacts of the card are respectively provided at the other ends. Each contact member 10 extends in such a manner as to creep into the interior of the base from an end face (front end face) of the base opposite to its card fitting side, and is bent leftward before a through hole 17 with a rectangular

cross section formed in the base in correspondence with the contact portion 12. Then, the contact member 10 advances straight in parallel with the through hole 17, and its direction is reversed after the contact member 10 has gone beyond the
5 through hole 17, and the contact member 10 is exposed from a rear-side wall surface of the through hole 17. Further, the contact member 10 is bent upward in the through hole 17, becomes higher than the obverse surface (upper surface) of the base and forms a peak, and the contact member 10 is subsequently bent
10 downward to its terminating end. In other words, the contact portion 12 is also bent in a chevron shape and has a terminating end in the card fitting direction.

The pair of holding portions 13 are respectively attached to both side portions of a widened portion of the base.
15 The holding portions 13 are formed by bending a metal plate, and their one ends are respectively fixed to the side portions of the widened portion. By virtue of their resiliency, the holding portions 13 hold both sides of the front end portion of the fitted card.

20 The housing-side stopper 7 is formed by a substantially rectangular resilient piece, its rear end 7b is fixed to the bottom surface of the card-fitting recessed portion 3, and the housing-side stopper 7 extends slightly diagonally upward from the rear end 7b toward its front end 7c. A cutout 7a is formed
25 around the housing-side stopper 7 excluding its rear end. The housing-side stopper 7 is preferably molded integrally with the bottom surface of the card-fitting recessed portion 3.

A battery-side stopper 21 and a pressure contact portion 22 are provided on the reverse surface (lower side in
30 Fig. 3) of a cover-cum-battery 8. As shown in Fig. 4, the battery-side stopper 21 has a substantially square planar shape,

and is provided projectingly on the reverse surface of the cover-cum-battery 8 so as to be located rightwardly (on the upper side in Fig. 4) adjacent to the housing-side stopper 7 on the bottom surface of the card-fitting recessed portion 3 in an opposing manner. In addition, the pressure contact portion 22 has a substantially rectangular planar shape, and is provided projectingly on the reverse surface of the cover-cum-battery 8 so as to oppose the contact portions 11 of the card connector 6.

Next, referring to Figs. 2 to 7, a description will be given of the operation of loading and unloading the card in the portable telephone constructed as described above. Here, Fig. 5 is a plan view illustrating a state in which the fitting of the card is started, Fig. 6 is a plan view illustrating a state in which the fitting of the card has been completed, and Fig. 7 is a cross-sectional view illustrating a state in which the fitting of the card has been completed.

First, as shown in Fig. 5, a front end 31a of a card 31 is adjusted to a position close to rear ends of the holding portions 13, and a rear portion of the card 31 is pressed toward the bottom surface of the card-fitting recessed portion 3 against the resiliency of the housing-side stopper 7. The housing-side stopper 7 is pressed by the lower surface of the card 31, is deflected downward around its rear end 7b as a center, and becomes horizontal. Next, the card 31 is slid leftward in the drawing. At this time, both side ends of the card 31 are guided by side wall surfaces of the card-fitting recessed portion 3. Then, as shown in Figs. 6 and 7, the front end 31a of the card 31 pass below the holding portions 13 and stop at a predetermined position. When the front end 31a of the card 31 is stopped at the predetermined position, a rear end 31b is

located forwardly of the front end 7c of the housing-side stopper 7, so that the housing-side stopper 7 is deflected upward around its rear end 7b as a center due to its resiliency.

Accordingly, both sides of the front portion of the card 31
5 are held by the holding portions 13, with the result that a satisfactory state of contact between the contact portions 12 of the card connector 6 and the contact portions (not shown) of the card 31 is maintained. In addition, the card 31 is prevented from coming off in the rearward direction by the
10 housing-side stopper 7. Further, as the cover-cum-battery 8 is fixed in this state, the card 31 is pressed at a position above the contact portions 11 by the pressure contact portion 22, thereby maintaining a satisfactory state of contact between the contact portions 11 and the contact portions (not shown)
15 of the card 31. In addition, the battery-side stopper 21 also prevents the card 31 from coming off in the rearward direction.

On the other hand, when the card 31 is removed, after the housing-side stopper 7 is pressed downward and deflected until it becomes horizontal, the card 31 is slid in the rearward
20 direction. When the card 31 returns to the position shown in Fig. 5, the rear portion of the card 31 is lifted up from the bottom surface of the card-fitting recessed portion 3 due to the resiliency of the housing-side stopper 7, so that the card 31 can be removed easily.

Thus, in this embodiment, since the holding portions
25 13 are disposed at the front portion of the card connector, as compared with the conventional example in which the holding portions are disposed in the central portion of the card connector, the amount of the card slid becomes short, so that
30 the card fitting portion can be made compact. Further, the decline in the holding force with respect to the rear portion

of the card due to the disposition of the holding portions in the front portion is overcome by the provision of the pressure contact portion 22. In addition, as the stopper 7 formed by a resilient piece having one end fixed to the bottom surface of the card-fitting recessed portion 3 is provided, it becomes possible to remove the card without deflecting it.

It should be noted that the invention is not limited to the above-described embodiment and, for example, modifications such as those shown in (1) and (2) below are possible.

(1) The housing-side stopper 7 is disposed in a state in which the housing-side stopper 7 in terms of its orientation is rotated 90 degrees clockwise or counterclockwise. This makes it possible to avoid a situation in which the rear end 31b of the card 31 is erroneously made to creep below the housing-side stopper 7 at the time of removal of the card 31.

(2) Since a cutout 31c is formed at a corner of the card 31, if an arrangement is provided such that, for example, the cover-side stopper is disposed in a region 23 surrounded by the broken line in Fig. 6 in such a manner as to oppose the cutout 31c, it is possible to avoid a situation in which the card 31 is erroneously loaded by making a mistake with respect to the front and rear sides or the obverse or reverse sides of the card 31.

[Industrial Applicability]

As described above, the front portion of the card is held by a pair of card holding portions provided in a front portion, as viewed in a card sliding direction, of the card connector, and the rear portion of the card is held by an inner wall surface of the cover of the housing of the portable terminal apparatus. Accordingly, there are provided a card holding

structure having an outstanding advantage in that the card can be held reliably and the card fitting portion can be made compact, as well as a portable terminal apparatus having the same.

In addition, the arrangement provided is such that the
5 card fitting portion is recessed in an inner surface of the housing of the portable terminal apparatus, and a housing-side stopper is provided which is formed by a rectangular resilient piece having one end fixed to the bottom surface of the card fitting portion. Accordingly, there are provided a card
10 holding structure having an outstanding advantage in that the card can be removed without deflecting it, as well as a portable terminal apparatus having the same.

While only certain embodiments of the invention have been specifically described herein, it will be apparent that
15 numerous modifications may be made thereto without departing from the spirit and scope of the invention.

CLAIMS

1. A card holding structure in a portable terminal apparatus, for fitting a card by sliding and for holding the card, comprising:

- 5 a card connector fixed in a card fitting portion provided inside a housing of the portable terminal apparatus;
a holding portion provided in a front portion, as viewed in a card sliding direction, of the card connector, and holding a front portion of the card; and
10 an inner wall surface of a cover for the housing of the portable terminal apparatus, said inner wall surface holding a rear portion of the card.

2. The card holding structure according to claim 1, wherein said card connector has two sets of contact portions
15 which are respectively disposed at forward and rearward positions in the card sliding direction, so as to establish electrical contact with the card.

3. The card holding structure according to claim 1, wherein the card fitting portion includes a recessed portion
20 recessed in an inner surface of the housing, and a sliding movement of the card is guided by side wall surfaces of the recessed portion.

4. The card holding structure according to claim 3, wherein the card fitting portion includes a housing-side
25 stopper formed by a resilient piece having an end fixed to the card fitting portion.

5. The card holding structure according to claim 4, wherein a tip portion of the housing-side stopper is directed toward a direction perpendicular to the card sliding direction.

6. The card holding structure according to claim 1,
5 wherein the cover serves as a battery housing.

7. The card holding structure according to claim 1, wherein the cover includes a cover-side stopper projecting toward the card fitting portion.

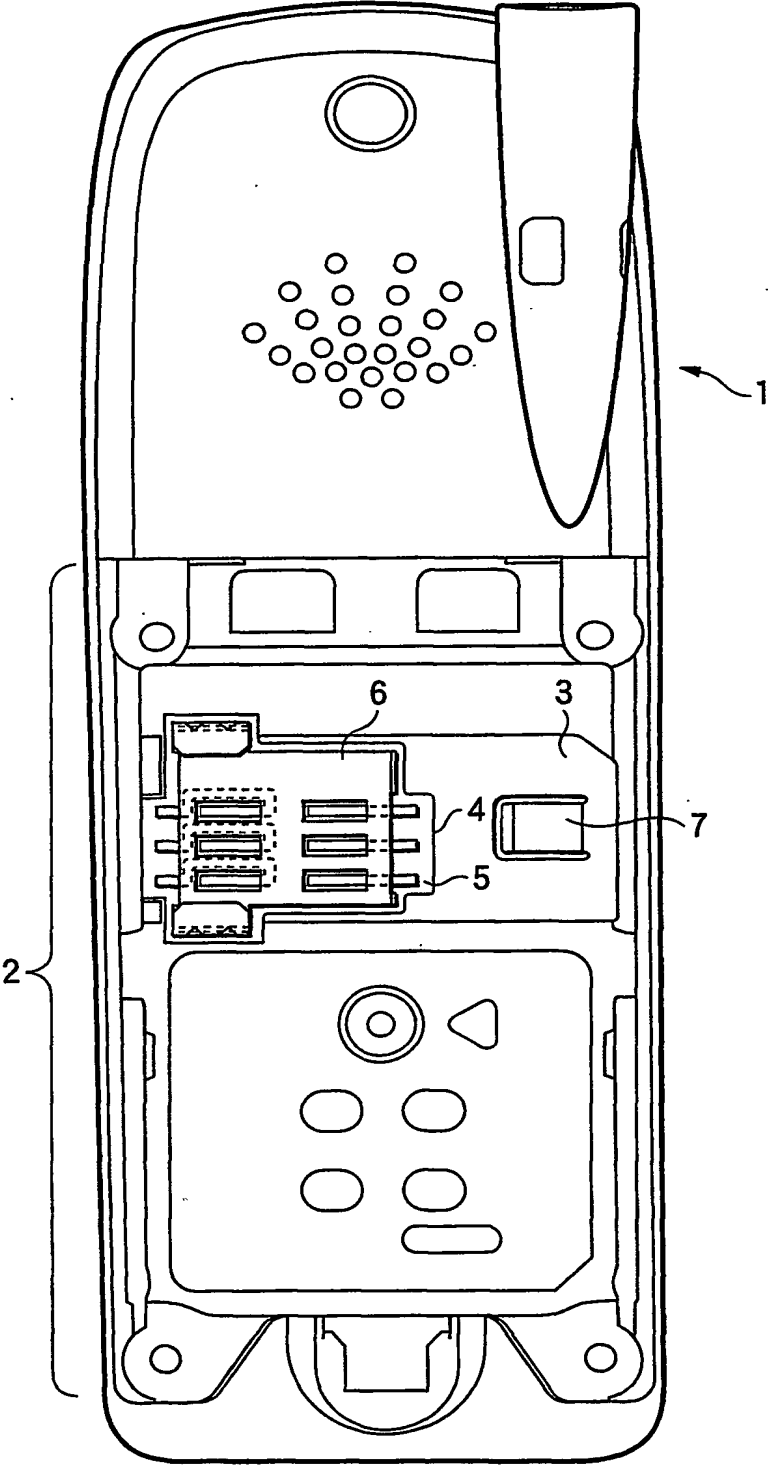
8. The card holding structure according to claim 7,
10 wherein the cover-side stopper prevents the card from coming off rearward in the card sliding direction.

9. The card holding structure according to claim 7, wherein the cover-side stopper presses the card at a position above a contact portion of the card.

10. The card holding structure according to claim 7,
15 wherein the cover-side stopper is disposed in a region opposing the cutout provided at a corner of the card.

11. A portable terminal apparatus comprising:
a housing including a card connector into which a card
20 is slidably fitted and is held, the card connector including a holding portion provided in a front portion, as viewed in a card sliding direction, of the card connector;
a cover engaging said housing and including a pressing portion provided on an inner wall surface thereof so as to press
25 a rear portion of the card.

FIG.1



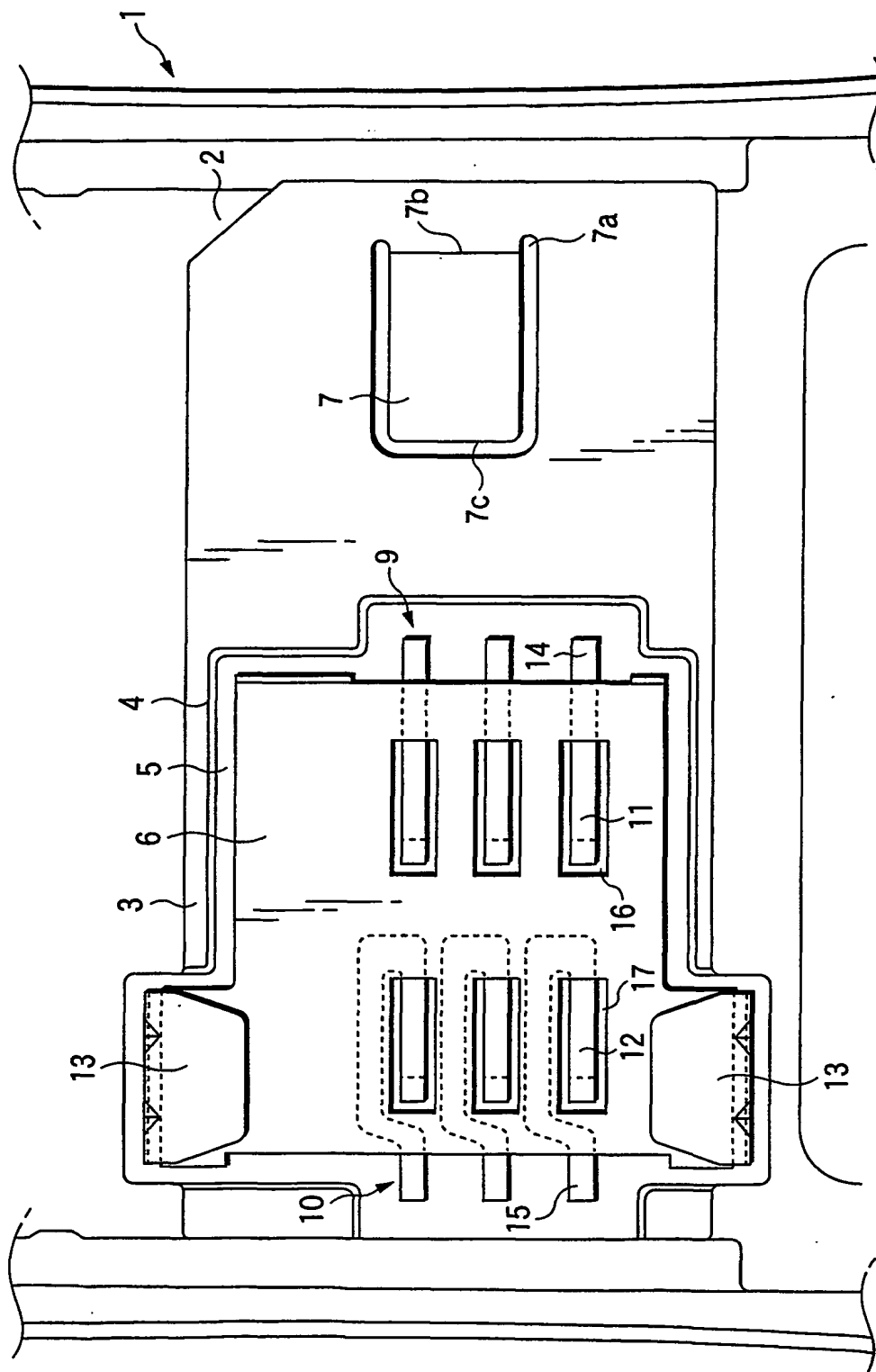


FIG.3

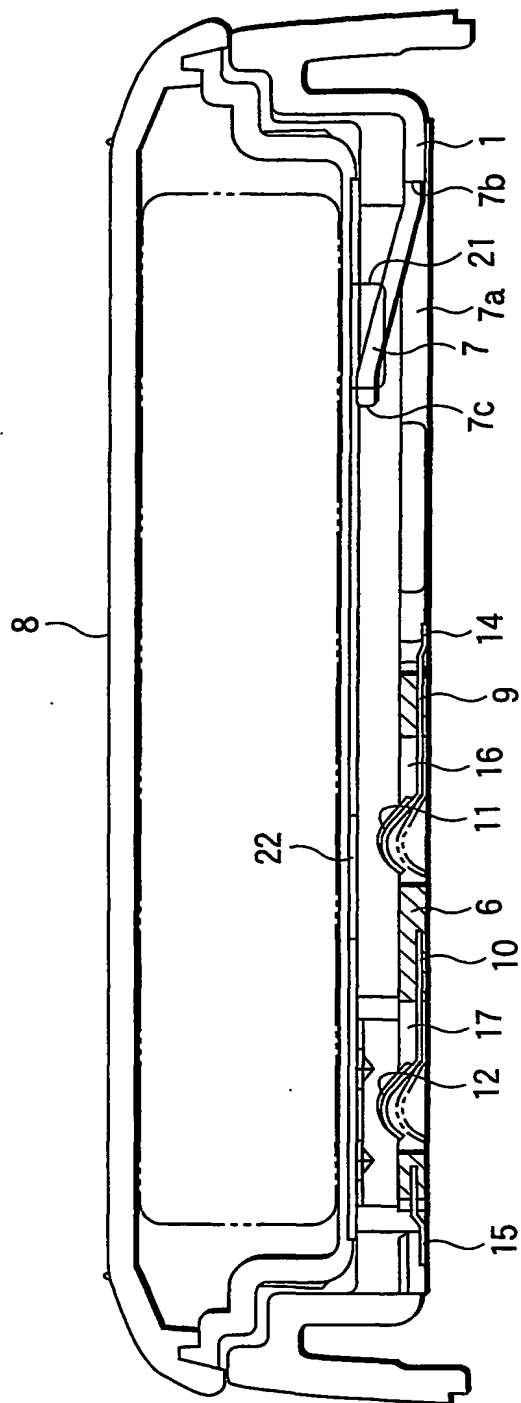


FIG.4

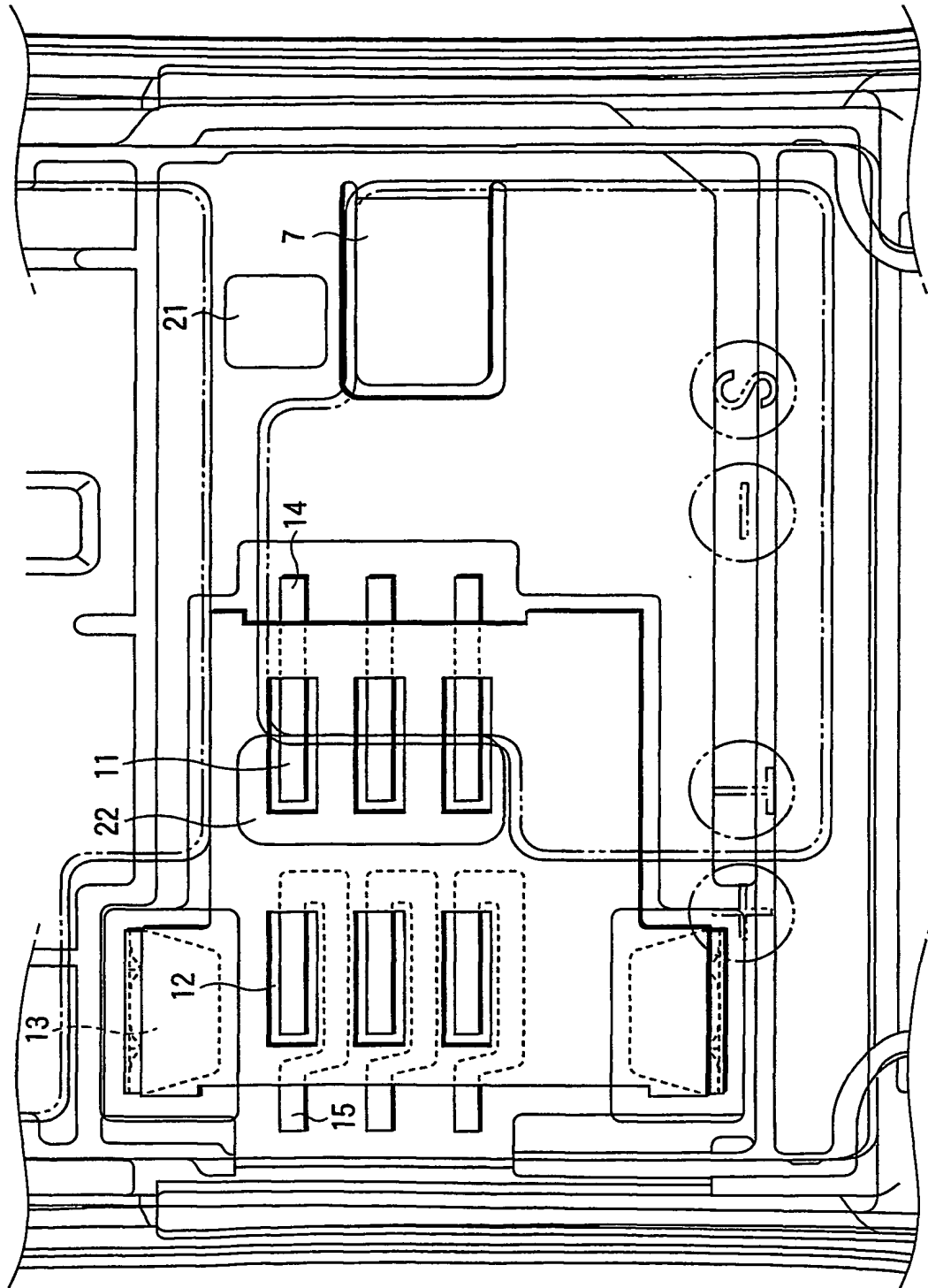


FIG.5

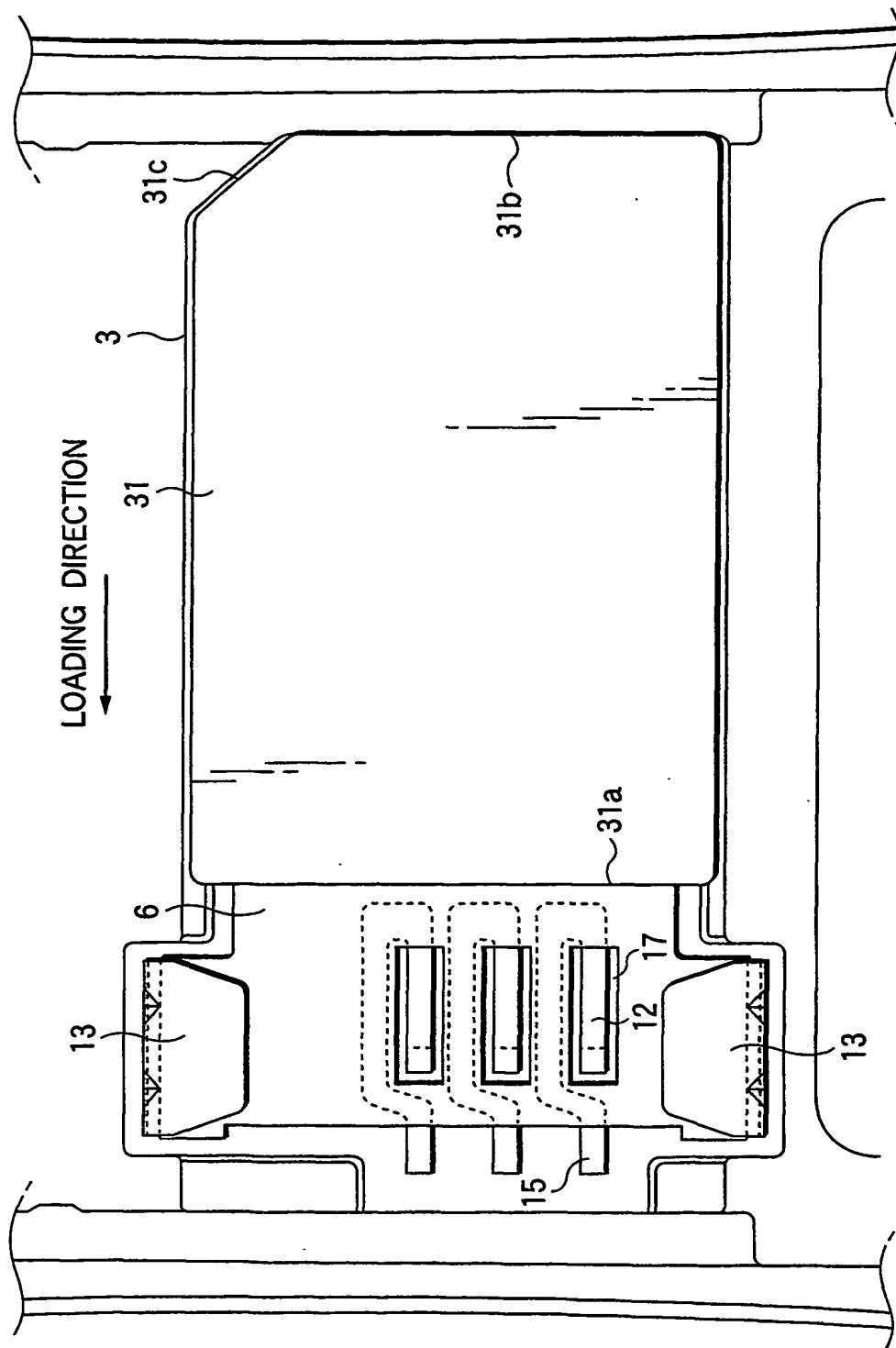


FIG.6

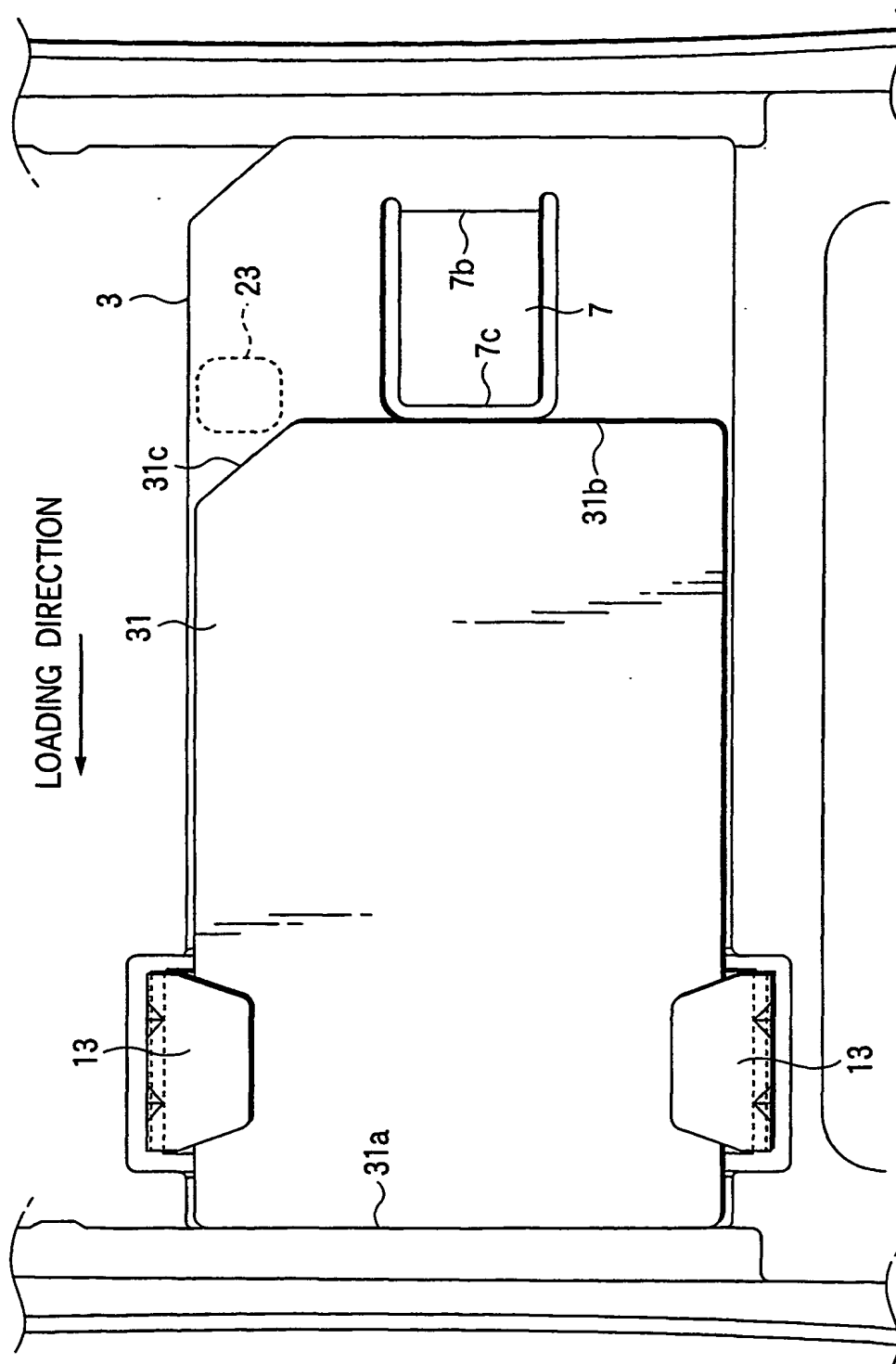


FIG.7

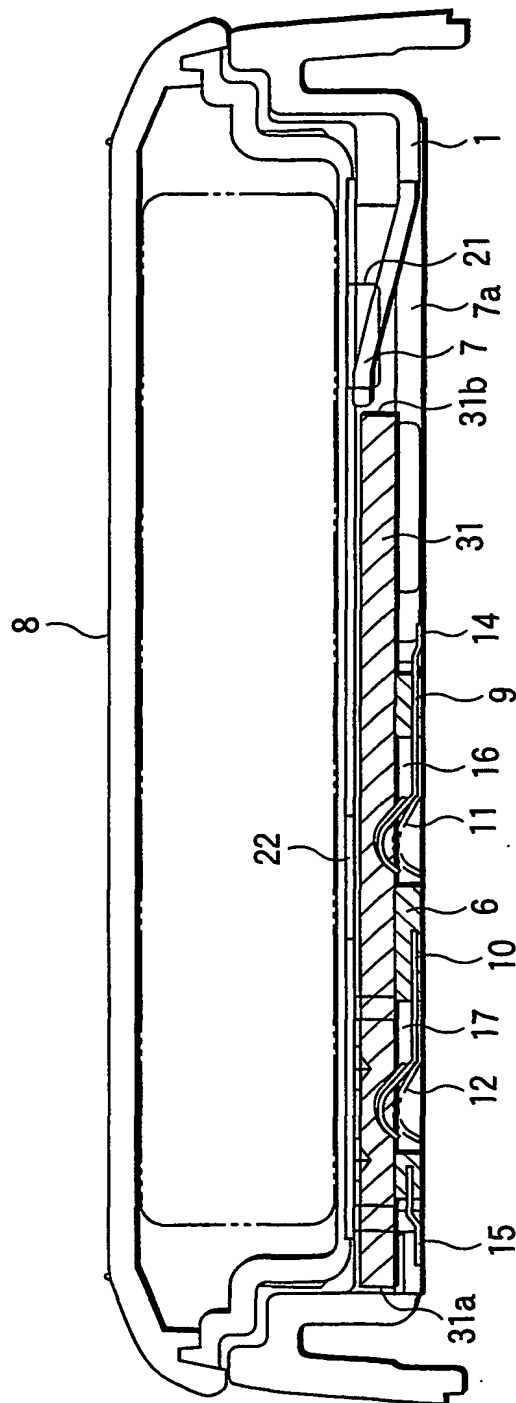
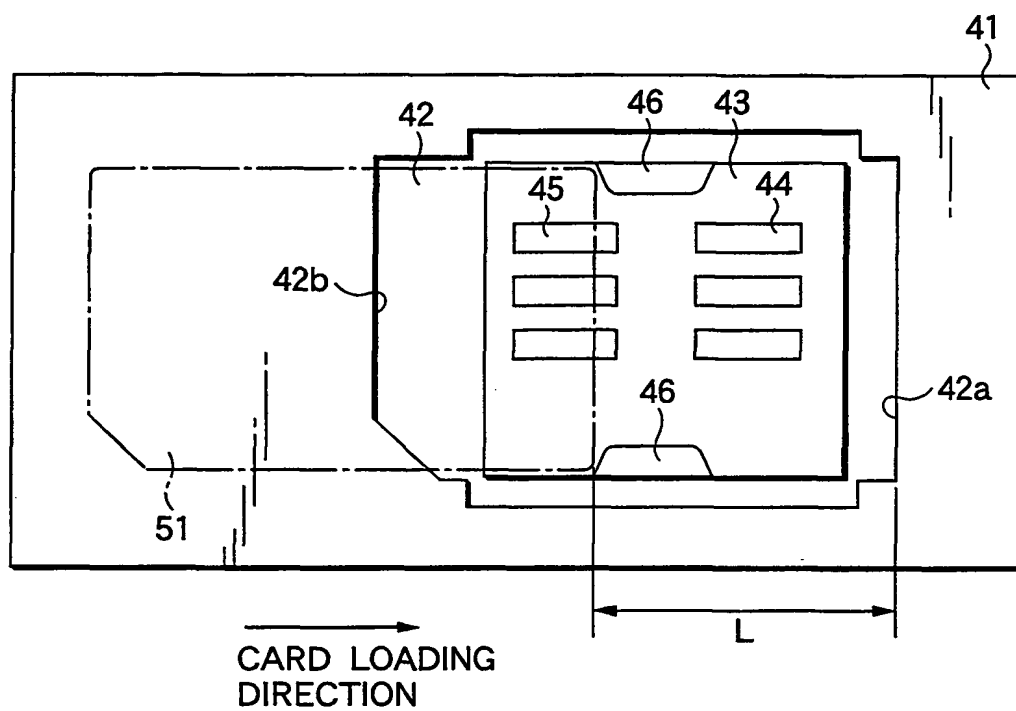


FIG.8



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NL, PT, SE, TR).

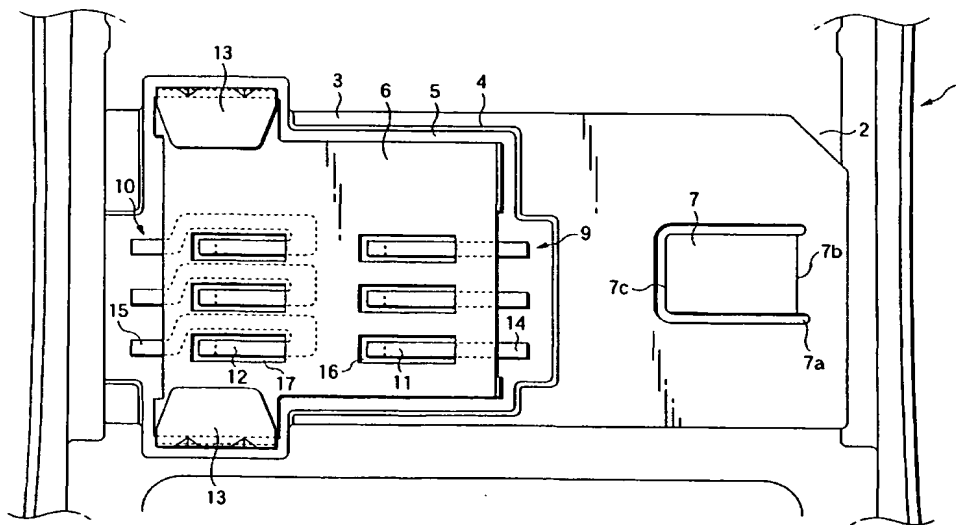
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ning of each regular issue of the PCT Gazette.

(54) Title: CARD HOLDING STRUCTURE AND PORTABLE TERMINAL APPARATUS HAVING THE SAME



(57) Abstract: A card is slid and fitted to a card connector fixed in a card-fitting recessed portion provided inside a reverse surface-side housing of a portable terminal apparatus. A front portion of the card is held by card holding portions provided in a front portion, as viewed in a card sliding direction, of the card connector, and a rear portion of the card is held by an inner wall surface of a cover-cum-battery of the reverse surface-side housing. A housing-side stopper is provided on a bottom surface of the card-fitting recessed portion. The housing-side stopper is formed by a rectangular resilient piece having one end fixed to a bottom surface of the card-fitting recessed portion.

INTERNATIONAL SEARCH REPORT

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PCT/JP 01/01367

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H04B1/38 H04M1/02 G06K7/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 H04B G06K H04Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	US 6 175 505 B1 (SUN HSUEH-WEN ET AL) 16 January 2001 (2001-01-16)	1-3, 6, 11
A	abstract column 2, line 40 -column 3, line 45 figures 1-4	4, 5, 7-10
A	WO 98 13784 A (WHITAKER CORP) 2 April 1998 (1998-04-02) abstract page 3, line 26 -page 7, line 3 figures 1, 2, 6, 7	1-11
A	WO 98 25424 A (PHILIPS ELECTRONICS NV ; PHILIPS NORDEN AB (SE)) 11 June 1998 (1998-06-11) abstract claim 1 figures 1-4	1-11
<input type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
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Date of the actual completion of the international search 30 November 2001		Date of mailing of the international search report 06/12/2001
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Tzimeas, K

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